



Mitigation Project Protects Bidwell Paiute Tribal Reservation

Full Mitigation Best Practice Story

Modoc County, California

Modoc County, CA - Annually, the Bidwell Paiute Tribe experienced damage to their reservation from heavy storms. Their outdated dam and gutters were ill-equipped to handle the heavy amounts of rain. As a result, heavy runoffs caused serious erosion damage, especially to the earthen dam upstream from the community. The dam holds a water volume of 450,000 cubic feet and houses a hydroelectric system and generator. Damage often occurs to these systems from the rainfall. The effects of the erosion disrupt supply lines and access roads.



The leadership of the Tribal Council applied for and received a grant from FEMA's Hazard Mitigation Grant Program to mitigate the problem areas. Phase I of the project was to place a concrete gutter along the southern portion of the Dam Road and eastern portion of Penstock Road (downstream) to carry storm runoff down a 24-inch culvert to Soldier Creek. In Phase II, the hydroelectric water supply pipe, which had collapsed into Soldier Creek, was buried further downstream. In addition, a timber-retaining wall was built with compacted stone behind it. The earthen ditches on the east and west sides of Dam Road were renovated with either concrete lining or corrugated metal pipes.

As a result of this mitigation, the Bidwell Paiute Tribe and their community are no longer in immediate risk of extensive damage or loss of life caused by the collapse of their dam upstream. Their community is better equipped to handle the annual heavy rains. The risk of their community being devastated by the loss of electricity, supply lines and access roads has been significantly reduced.

Savings over the life of the project due to avoided damages is expected to be at least \$104,308.

Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region IX**

State: **California**

County: **Modoc County**

City/Community: **Fort Bidwell**

Key Activity/Project Information

Sector: **Public**
Hazard Type: **Severe Storm; Flooding**
Activity/Project Type: **Land Use/Planning**
Activity/Project Start Date: **06/1997**
Activity/Project End Date: **03/1998**
Funding Source: **Hazard Mitigation Grant Program (HMGP)**
Funding Recipient: **Tribal Organizations/Government**
Funding Recipient Name: **Bidwell Paiute Tribe**

Activity/Project Economic Analysis

Cost: **\$13,635.00 (Actual)**

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **Unknown**
Value Tested By Disaster? **Unknown**
Repetitive Loss Property? **Unknown**

Reference URLs

Reference URL 1: **<http://www.floodsmart.gov>**
Reference URL 2: **<http://www.fema.gov/government/grant/hmgp/index.shtm>**

Main Points

- Their outdated dam and gutters were ill-equipped to handle the heavy amounts of rain.
- Phase I of the project was to place a concrete gutter; Phase II, the hydroelectric water supply pipe was buried further downstream.
- A timber retaining wall was built with compacted stone behind the water supply pipe; the earthen ditches were renovated with either concrete lining or corrugated metal pipes.